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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,614	10/11/2001	Chad L. Cundiff	H0001749	3286

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BLACK LOWE & GRAHAM PLLC
816 SECOND AVENUE
SEATTLE, WA 98104

EXAMINER

LOUIS JACQUES, JACQUES H

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/976,614	Applicant(s) CUNDIFF, CHAD L.	
	Examiner Jacques H Louis-Jacques	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 4, 2004 has been entered.

Response to Amendments & Arguments

2. Applicant's amendments and arguments filed on May 4, 2004 along with the request for continued examination have been entered and are carefully considered by the examiner.

In particular, Applicant has amended the claims to include that the primary flight display being "located on an instrument panel" and configured to "simultaneously" indicate the altitude, attitude, and direction of flight". Emphasis added.

Applicant recognizes that a "primary flight display (PFD) is well-known in the art and admits that "Applicant respectfully asserts that "Primary Flight Display," having the meaning a "specialized display, on an instrument panel, that displays, in a single composite pane configured to display at least an artificial horizon, altitude, attitude, and direction of flight data" is a well-accepted term in the aviation community." See response at page 4. Applicant added "a display configured to display each of altitude, attitude, and direction of flight in alternate screens is not a "primary flight display." Also, see response

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at page 4. The examiner does not dispute Applicant's interpretation or definition of a "primary flight display".

The claims of the present application have been finally rejected over the combination of Kabel [5,936,553] in view of Hansen [6,567,014].

With respect to the applied rejection, Applicant argued, "Nothing [in] Kabel indicates the simultaneous display of the situational awareness indicia." See response at page 5.

The rejection has relied on the Hansen patent to supplement the teachings of Kabel. On page 5 of the response, "Applicant suggests the examiner has constructed a reconstruction based upon hindsight." Applicant then concluded, "that a *prima facie* case of obvious has not been established because the combination of cited references do not teach or suggest the claimed invention."

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argued, "nowhere has Kabel suggested an aircraft attitude nor a movable horizon as in a primary flight display."

Applicant stated "it is the very object of Hansen et al, as cited by the Examiner, to provide an "uncluttered display."" The mere fact that Hansen may have provided an

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“uncluttered display” so as to remove, for example, non-essential symbols, does not justify that the display of Hansen does not show “altitude, attitude and direction of flight”.

Applicant asserted, “[c]ombining this display [of Hansen] with the GPS display [of Kabel] would be to create a heads-up display that has a static horizon projected the taught display thereby obscuring the whole of the pilot’s view through the canopy.” Emphasis added.

The fact that applicant has recognized another advantage [or disadvantage] which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Furthermore, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Notwithstanding Applicant’s arguments, despite the remarks presented above, a new ground of rejection has been applied against the claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Price [US 2003/0193411].

Price discloses an electronic flight instrument displays. According to Price, there is provided a primary flight display including moving map display for providing flight parameters or data for aircraft cockpits. That is, the primary flight display is located on an instrument panel. According also to Price, display data are gathered or collected from

various aircraft sensors. These aircraft data include navigation, airspeed, altitude, direction of flight, and attitude data from the aircraft. As recognized by Price on page 2, the primary flight display consists of presenting flight data on a single screen. Symbology and information related to airspeed, altitude, direction of flight, perspective view of ground and horizon are presented/displayed on a single screen. See paragraph [0006]. Also, in paragraph [0008], Price recognizes that it is well known to generate a moving map using navigational symbols. See also paragraph [0010]. As shown, for example, in figures 1 and 2, Price discloses simultaneously indicating the altitude, attitude, and direction of flight, and as a function of the data to show a perspective view of earth ground and horizon that are substantially conformal with a VMC view from the aircraft and generating at least one of a current or next waypoint symbol on the display. See paragraphs [0024] to [0028], and [0033] to [0037]. In addition, as described in paragraphs [0030] and [0031], Price discloses generating at least one of a current or next waypoint comprises the step of generating a first symbol at the horizon to indicate the current waypoint; generating at least one of a current or next waypoint comprises the step of generating a second symbol at the horizon to indicate the next current waypoint selecting a desired current waypoint, wherein the steps of generating comprise altering the perspective view to match the selected waypoint; electronically moving the symbol on the display; adjusting navigation settings aboard the aircraft to alter the data; and generating one or more situation awareness symbols on the display. See in particular pages 2 and 3. With respect to the one or more situation awareness symbols generated on the display, Price discloses generating one or more of the following: an attitude symbol

reflecting aircraft speed [0026]; an attitude symbol reflecting aircraft altitude [0028]; an attitude symbol reflecting aircraft pitch [0025]; and a compass symbol reflecting heading [0024]. Price further discloses acquiring aircraft speed and altitude from air and attitude instruments of the aircraft including direction to next waypoint, last waypoint information, and left/right deviation [paragraphs [0031] to [0037]. It is to be noted also on page 4 Price discloses the course between waypoints of a route (path) is automatically updated as the aircraft flies over the waypoints. Furthermore, Price discloses generating one or more situation awareness symbols comprises generating one or more landmarks by generating an airstrip conformal with the earth ground perspective view [0035].

See also the claim section.

5. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Suiter [6,690,299].

Suiter discloses a primary flight display (PFD, 10) with tactical 3-D (perspective) display including three view slices. The primary flight of Suiter provides information related to navigational data including airspeed, attitude, altitude, and heading (abstract). See also column 3. Suiter discloses generating one or more situation awareness symbols on the display including one or more of the following: an attitude symbol reflecting aircraft speed; an attitude symbol reflecting aircraft altitude; an attitude symbol reflecting aircraft pitch; and a compass symbol reflecting heading (columns 4 and 5, figures 1 and 2). According to Suiter, the primary flight display (PFD 10) is located on an instrument panel and configured to simultaneously indicate the altitude, attitude, and direction of flight, and as a function of the data to show a perspective view of earth ground and

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horizon (artificial horizon) that are substantially conformal with a VMC view from the aircraft (figures 1 and 2); and generating at least one of a current or next waypoint symbol on the display. Suiter further discloses generating one or more situation awareness symbols on the display (column 5) including one or more of: an attitude symbol reflecting aircraft speed; an attitude symbol reflecting aircraft altitude; an attitude symbol reflecting aircraft pitch; and a compass symbol reflecting heading (columns 4 and 5). The one or more situation awareness symbols comprises one or more landmarks, wherein generating one or more landmarks comprises generating an airstrip conformal with the earth ground perspective view (column 6). See also columns 4 and 5. Suiter discloses, in columns 7 and 9-10, generating at least one of a current or next (projected) waypoint by generating a first symbol at the horizon to indicate the current waypoint and generating a second symbol at the horizon to indicate the next current waypoint.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are related to primary flight displays:

4,860,007	Konicke et al	Aug. 1989
5,136,301	Bechtold et al	Aug. 1992
5,359,890	Fulton et al	Nov. 1994
5,412,382	Leard et al	May 1995
5,844,504	Etherington	Dec. 1998

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6,389,333	Hansman et al	May 2002
6,567,069	Bontrager et al	May 2003
6,700,482	Ververs et al	Mar. 2004

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H Louis-Jacques whose telephone number is 703-305-9757. The examiner can normally be reached on M-Th 6:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques H Louis-Jacques
Primary Examiner
Art Unit 3661

/jlj
June 17, 2004

Jacques H. Louis-Jacques
JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER